

* SWBAT define and apply acceleration

Sep 6-2:31 PM

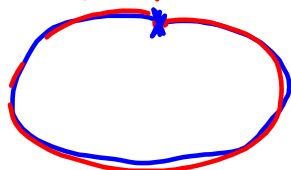
CP: \Rightarrow SPEED

DISTANCE: TOTAL GROUND COVERED

\Rightarrow VELOCITY
DISPLACEMENT: START TO

FINISH WITH A DIRECTION

↓
VECTOR
DISP: 0
DIST: 1 mi.



Oct 4-8:11 AM

Welcome!!!

H. Leslie Grebe

SECA Physics
Friday 4 October 2013

* Pick up:

- slip of paper (for later)
- half sheet of paper

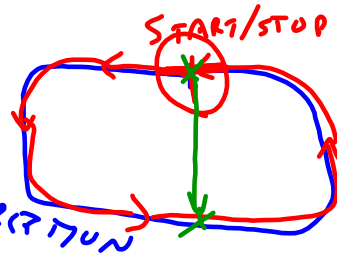
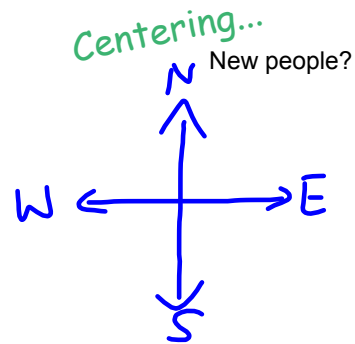
Opening Question:

Danica Patrick gets up to speed and then does one lap around the 1-mile track in 18 seconds:

Frick says her average speed is 200 mph ✓

Frack says her average velocity is 0 mph ✓

With whom do you agree?



Sep 7-7:04 AM

Catchy Physics Phrases:

Speed is

$$S = \frac{\Delta d}{\Delta t}$$

New Villain in Town:

<http://www.tes.co.uk/teaching-resource/Velocity-a-new-Villain-in-town-6192925/>

Velocity is

SPEED & DIRECTION

New idea:

ACCELERATION

0 to 60 mph in 10 seconds

0 to 60 mph in 5 seconds

CHANGING VELOCITY

What's the difference? What does this tell you about the two cars?

Oct 10-7:34 AM

Washer demo

- Make a prediction
- Write a brief explanation

SPREAD OUT WASHERS

MADE AN EVEN SOUND ON PAN

LONGER OR FARTHER SOMETHING
FALLS, THE MORE DISTANCE
IT COVERS PER SECOND

ACCELERATION IS CHANGING
VELOCITY.

EVEN
WASHERS

PREDICTION:

OBSERVATION:
THE CLINKS
GOT CLOSER
TOGETHERUNEVEN
WASHERS

PREDICTION:

OBSERVATION:

Bill Nye...

Oct 5-7:33 AM

Catchy Physics Phrases: Speed, Velocity, Acceleration

Speed is

Change in distance over
change in time

Velocity is

Speed with direction

Acceleration is

Change in velocity over
change in time

$$a = \frac{\Delta v}{\Delta t}$$

Example:

0 → 60 $\frac{\text{mi}}{\text{hr}}$ in 10 sec

$$a = \frac{\Delta v}{\Delta t} = \frac{60 \frac{\text{mi}}{\text{hr}}}{10 \text{ s}} = 6 \frac{\text{mi/hr}}{\text{s}}$$

$$\frac{60 \frac{\text{mi}}{\text{hr}}}{3 \text{ hr}} = 20 \frac{\text{mi}}{\text{hr}}$$

Controls in your car:

- BRAKE PEDAL
- GAS PEDAL
- STEERING WHEEL

Oct 4-7:27 AM

Try the worksheet

Questions are in pairs -- comparing how **\$\$\$** changes to how **speed** changes

ON EARTH GRAVITY ADDS 10m/s every sec.
 $10\text{ m/s/s} = 10\text{ m/s}^2$

Oct 5-8:37 AM

Daily 3 Questions

- * Every day except test/project days
- * 3 Questions on the topics of the day
- * Main source of daily points
- * I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

You can't get your points if you don't have your **NAME!!!**

| Name | Period |
|------|--------|
| 1. | |
| 2. | |
| 3. | |

Sep 9-7:32 AM

1. What is one control in your car that will affect the car's acceleration?

GAS, BRAKES, STEERING

2. Washers that get more spread out (2nd string) make sound that

A. gets more spread out

B. is evenly spaced

C. gets closer together

3. Acceleration is change in VELOCITY over change in

TIME.

Oct 8-6:48 AM

Oct 4-1:37 PM